

## **City of Roanoke Employees' Post- Retirement Health Plan**

### **GASB 43/45 Actuarial Valuation Report as of July 1, 2015**

**Produced by Cheiron**

**November 2015**

# TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Letter of Transmittal .....	i
Section I - Summary .....	1
Section II - Assets .....	3
Section III - Valuation Results.....	4
Section IV - Sensitivity .....	7
Section V - Accounting Disclosures .....	9
 <u>Appendices</u>	
Appendix A – Participant Data, Assumptions and Methods .....	12
Appendix B – Substantive Plan Provisions .....	21
Appendix C – Glossary of Terms .....	26
Appendix D – Abbreviation List.....	28

November 11, 2015

Andrea F. Trent, Assistant Director of Finance  
City of Roanoke  
Department of Finance  
Noel C. Taylor Municipal Building  
215 Church Avenue, SW Room 461  
Roanoke, Virginia 24011

***Re: Employees' Post-Retirement Health Plan July 1, 2015 GASB 43/45 Actuarial Valuation Results***

Dear Andrea:

As requested by the City, we have performed an actuarial valuation of the postretirement benefits provided by the City of Roanoke Post-Retirement Health Plan (Plan). The following report contains our findings and disclosures required by the Governmental Accounting Standards Board (GASB). This report is for the use of the City of Roanoke and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. These actuarial computations are calculated based on our understanding of GASB 43 and 45 and are for purposes of fulfilling Plan and employer financial accounting requirements. Determinations for purposes other than meeting Plan and employer financial accounting requirements may be significantly different from the results in this report.

Appendix A describes the participant data, assumptions, and methods used in calculating the figures throughout the report. In preparing our report, we relied on information (some oral and some written) supplied by the Plan's staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23. The demographic and economic assumptions used in this report are the same as those used in the July 1, 2014 OPEB report, with the exception of the claims, premiums and expenses.

Appendix B contains our understanding of the substantive plan provisions based on the information provided by your office.

The results of this report rely on future plan experience conforming to the underlying assumptions and methods. To the extent that the actual plan experience deviates from the underlying assumptions and methods, or there are any changes in plan provisions or applicable laws, the results would vary accordingly.


Ms. Andrea F. Trent  
City of Roanoke  
November 11, 2015

This report reflects the additional fees that are payable for three years for Transitional Reinsurance of \$44 per covered life in 2015 and \$27 per covered life in 2016, and also reflects the Patient-Centered Research Institute (PCORI fees) of \$2.08 per member per year payable during an eight-year period, pursuant to the Affordable Care Act. However, this report does not reflect other future changes in benefits, penalties, taxes, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010, related legislation, or regulations.

To the best of our knowledge, this actuarial valuation report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared exclusively for the City of Roanoke for the purpose described herein. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,  
Cheiron, Inc.



Margaret Tempkin, FSA, EA, MAAA  
Principal Consulting Actuary



Alison M. Chafin, ASA, EA, MAAA  
Associate Actuary



Michele Domash, FSA, FCA, MAAA  
Principal Consulting Actuary

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION I**  
**SUMMARY**

The City of Roanoke, Virginia engaged Cheiron to provide an analysis of the Employees' Post-Retirement Health Plan's liabilities as of July 1, 2015. The primary purposes of performing this actuarial valuation are to:

- **Determine the annual required contribution** (ARC) and the net other postemployment benefit (OPEB) obligation (NOO) of the retiree health benefit under GASB Statements 43 and 45 and the current funding strategy;
- **Provide disclosures** for financial statements; and
- **Provide projections** for ARC, NOO and actuarial liabilities.

We have determined costs, liabilities and trends for the substantive plan using actuarial assumptions and methods that we consider reasonable.

***GASB's OPEB Requirements***

GASB's Statement 43 refers to the financial reporting for postemployment benefit plans other than pension plans and Statement 45 refers to the employer accounting for these plans. Statement 43 is generally applicable where an entity has a separate trust or fund for OPEB benefits. We understand that the City has a trust used to fund future OPEB obligations. Statement 45, which was adopted in the fiscal year ending (FYE) June 30, 2008, requires the plan sponsor to book the actuarial cost (net of employee, retiree, and their dependents' contributions) of the plan as an expense on its financial statements and then accrue a liability to the extent actual contributions were less than this expense. Additional disclosures include a description of the substantive plan, summary of significant accounting policies (not included in this report), contributions, and a statement of funding progress, along with the methods and assumptions used for those disclosures.

This report does not reflect any changes in postemployment benefit accounting requirements from GASB No. 74 and 75 Statements for OPEB plans. GASB No. 74 is effective for the plan year ending June 30, 2017, and GASB 75 is effective for employers' fiscal years ending after June 30, 2018. All references and calculations with respect to GASB reflect current Statements No. 43 and 45.

***Funding Policy***

The City's funding policy is to fully fund the actuarially determined Other Postemployment Benefits (OPEB) costs, which include both normal costs and amortization of unfunded actuarial liability, by contributing to the Virginia Pooled OPEB Trust Fund (OPEB Trust Fund). The OPEB Trust Fund investments are recorded at fair value. The Trust's Board of Trustees

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION I**  
**SUMMARY**

establishes investment objectives, risk tolerance and asset allocation policies in light of the investment policy, market and economic conditions, and generally prevailing prudent investment practices.

***Valuation Results***

The table below presents the key results of the July 1, 2015 valuation compared to those of the July 1, 2014 actuarial valuation.

<b>Table I-1</b> <b>Summary of Key Valuation Results</b>		
	<b>July 1, 2014</b>	<b>July 1, 2015</b>
Actuarial Liability (AL)	\$ 10,667,000	\$ 11,119,000
Assets	<u>2,607,000</u>	<u>2,912,000</u>
Unfunded Actuarial Liability (UAL)	\$ 8,060,000	\$ 8,207,000
<b>Fiscal Year Ending</b>	<b>June 30, 2015</b>	<b>June 30, 2016</b>
Annual Required Contribution	\$ 982,000	\$ 1,071,000
Actual / <i>Expected</i> Contribution	982,000	<i>1,071,000</i>
Expected Net Benefit Payments	732,000	633,000
Actual / <i>Expected</i> Net OPEB Obligation at End of Fiscal Year	(343,000)	(345,000)

*Rounded to thousands*

The figures provided in this report are highly sensitive to the assumptions used. This report reflects claims, premiums and expenses determined as of July 1, 2015. There have been no significant changes in experience, population or plan design since the last valuation. The fiscal year ending June 30, 2016 annual required contribution has been revised to reflect assets and participant data as of July 1, 2015. The annual required contribution for the fiscal year ending June 30, 2016 increased by \$36 thousand compared to the expected provided in the July 1, 2014 report due to updated participant data, claim experience and trend updates.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION II**  
**ASSETS**

The Plan's preceding valuation of liabilities was performed as of July 1, 2014. Table II-1 below shows the reconciliation of assets for the fiscal year ending July 1, 2015 that were used to develop the FYE 2016 ARC and projected FYE 2017 ARC. The market value of assets returned 2.0% during the year. Benefit payments are net of the retiree premiums payable for coverage. The City contributes to the Trust the difference between the annual required contributions and the net benefit payments. The actual contributions to the Trust were \$250,000.

<b>Table II-1</b>	
<b>Reconciliation of Assets</b>	
<b>Valuation Assets as of July 1, 2014</b>	<b>\$ 2,607,000</b>
Contributions, including net benefit payments	982,000
Net Benefit Payments	(732,000)
Net Investment Earnings	55,000
<b>Valuation Assets as of July 1, 2015</b>	<b>\$ 2,912,000</b>

*Rounded to thousands*

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION III**  
**VALUATION RESULTS**

This section of the report calculates the current and expected future contribution requirements under the City's funding policy. Table III-1 below shows the actuarial liabilities for the Plan as of July 1, 2014 and July 1, 2015, as well as expected amounts as of July 1, 2016. The expected results were calculated using standard roll-forward techniques. Asset projections were calculated based on an assumed 7.0% rate of return and assuming the full ARC and expected benefits will be paid in the year ending June 30, 2016.

<b>Table III-1</b> <b>Unfunded Actuarial Liability</b>			
	July 1, 2014	July 1, 2015	Expected July 1, 2016
Medical Benefits			
Active Employees	\$ 15,284,000	\$ 16,026,000	\$ 18,079,000
Retirees and Beneficiaries	9,965,000	8,929,000	7,868,000
Total	\$ 25,249,000	\$ 24,955,000	\$ 25,947,000
Less Retiree Contributions			
Active Employees	\$ 8,996,000	\$ 8,852,000	\$ 9,926,000
Retirees and Beneficiaries	5,586,000	4,984,000	4,270,000
Total	\$ 14,582,000	\$ 13,836,000	\$ 14,196,000
<b>Actuarial Liability</b>	<b>\$ 10,667,000</b>	<b>\$ 11,119,000</b>	<b>\$ 11,751,000</b>
Assets	2,607,000	2,912,000	3,554,000
<b>Unfunded Actuarial Liability</b>	<b>\$ 8,060,000</b>	<b>\$ 8,207,000</b>	<b>\$ 8,197,000</b>

*Rounded to thousands*

Please note, however, that GASB only requires disclosure of the above actuarial liability in the notes to financial statements and does not require immediate recognition of the entire liability on the balance sheet. GASB's requirement is to book the annual OPEB expense (the ARC adjusted for the difference between the amortization of the NOO and interest on the NOO), and the cumulative difference between the annual OPEB expense and actual contributions, beginning in the FYE June 30, 2008, as the NOO on the balance sheet.

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) the 30-year amortization of the UAL as a level percentage of payroll over a closed period from July 1, 2008. Under the City's current funding policy, the City contributes the entire ARC. The difference between the actual contributions made (benefits provided) and the annual required contributions is the increase in expense on the financial statements of the City.



**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION III**  
**VALUATION RESULTS**

In Table III-2 below, we show the FYE 2015, FYE 2016, and the expected FYE 2017 Annual Required Contribution under the City's funding policy and a 7.0% assumed discount rate. It is assumed the City's funding policy is to pay the full ARC. The UAL amortization is based on a closed 30-year amortization period from July 1, 2008.

Table III-2 GASB ARC			
Fiscal Year Ending	June 30, 2015	June 30, 2016	Expected June 30, 2017
Total Normal Cost at BOY	\$ 973,000	\$ 1,020,000	\$ 1,114,000
Less Employee Contributions at BOY	558,000	545,000	595,000
City Normal Cost at BOY	\$ 415,000	\$ 475,000	\$ 519,000
UAL Amortization at BOY	503,000	526,000	540,000
Interest to End of Year	64,000	70,000	74,000
<b>Total ARC</b>	<b>\$ 982,000</b>	<b>\$ 1,071,000</b>	<b>\$ 1,133,000</b>
Less Employer Net Expected Benefit Payments	732,000	633,000	676,000
<b>Remaining Employer ARC</b>	<b>\$ 250,000</b>	<b>\$ 438,000</b>	<b>\$ 457,000</b>

*Rounded to thousands*

Table III-3 shows the expected benefit payments and retiree contributions through the fiscal year ending June 30, 2024. In calculating the liabilities, we project these figures for the life of each existing participant. This projects the anticipated eligible retirees and the change in both claims and premiums, combined with a smaller overall retiree group with coverage.

Table III-3 Expected Benefit Payments			
Fiscal Year Ending June 30,	Expected Gross Benefit Payments	Expected Retiree Contributions	Expected Net Benefit Payments
2016	\$1,785,000	\$1,152,000	\$633,000
2017	1,836,000	1,160,000	676,000
2018	1,884,000	1,167,000	717,000
2019	1,893,000	1,158,000	735,000
2020	1,865,000	1,135,000	730,000
2021	1,960,000	1,176,000	784,000
2022	2,139,000	1,249,000	890,000
2023	2,113,000	1,233,000	880,000
2024	2,303,000	1,314,000	989,000

*Rounded to thousands*

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION III**  
**VALUATION RESULTS**

***Reconciliation***

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation.

<b>Table III-4</b>	
<b>Reconciliation of Actuarial Liability</b>	
Actuarial Liability at July 1, 2014	\$ 10,667,000
Normal Cost	415,000
Expected Benefit Payments	(732,000)
Interest	751,000
Expected Actuarial Liability at July 1, 2015	\$ 11,101,000
Actuarial Liability at July 1, 2015	11,119,000
Gain or (Loss)	\$ (18,000)
Gain or (Loss) due to:	
Census changes	\$ (27,000)
Change in discount rate	0
Change in demographic assumptions	0
Change in claims and trend assumptions	9,000
Total changes	\$ (18,000)

*Rounded to thousands*

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2014 and July 1, 2015.
- *Census Changes* refer to the impact of population changes between July 1, 2014 and July 1, 2015.
- *Change in Discount Rate* refers to the impact that a change in discount rate had on the liability between July 1, 2014 and July 1, 2015. There were no discount rate assumption changes.
- *Change in Demographic Assumptions* refers to the change in assumptions other than the discount rate and not related to current or future claims costs. There were no demographic assumption changes.
- *Change in Claims and Trend Assumptions* refers to the change in expected current and future healthcare claims and expense costs. This year's valuation produced a gain in liabilities due to the adjustment of the claim curves and an offsetting loss due to the change in trends.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION IV**  
**SENSITIVITY**

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

Table IV-1 Sensitivity to Health Care Trend Rates - Unfunded Actuarial Liability			
Health Care Trend Rate	-1%	Base	+1%
Medical Benefits			
Active Employees	\$ 14,207,000	\$ 16,026,000	\$ 18,147,000
Retirees and Beneficiaries	8,590,000	8,929,000	9,296,000
Total	\$ 22,797,000	\$ 24,955,000	\$ 27,443,000
Less Retiree Contributions			
Active Employees	\$ 7,981,000	\$ 8,852,000	\$ 9,865,000
Retirees and Beneficiaries	4,818,000	4,984,000	5,162,000
Total	\$ 12,799,000	\$ 13,836,000	\$ 15,027,000
<b>Actuarial Liability</b>	<b>\$ 9,998,000</b>	<b>\$ 11,119,000</b>	<b>\$ 12,416,000</b>
Assets	2,912,000	2,912,000	2,912,000
<b>Unfunded Actuarial Liability</b>	<b>\$ 7,086,000</b>	<b>\$ 8,207,000</b>	<b>\$ 9,504,000</b>

*Rounded to thousands*

Table IV-2 Sensitivity to Health Care Trend Rates - GASB ARC for FYE 2016			
Health Care Trend Rate	-1%	Base	+1%
Total Normal Cost at BOY	\$ 869,000	\$ 1,020,000	\$ 1,204,000
Less Employee Contributions at BOY	472,000	545,000	633,000
City Normal Cost at BOY	\$ 397,000	\$ 475,000	\$ 571,000
UAL Amortization at BOY	454,000	526,000	609,000
Interest to End of Year	60,000	70,000	83,000
<b>Total ARC</b>	<b>\$ 911,000</b>	<b>\$ 1,071,000</b>	<b>\$ 1,263,000</b>

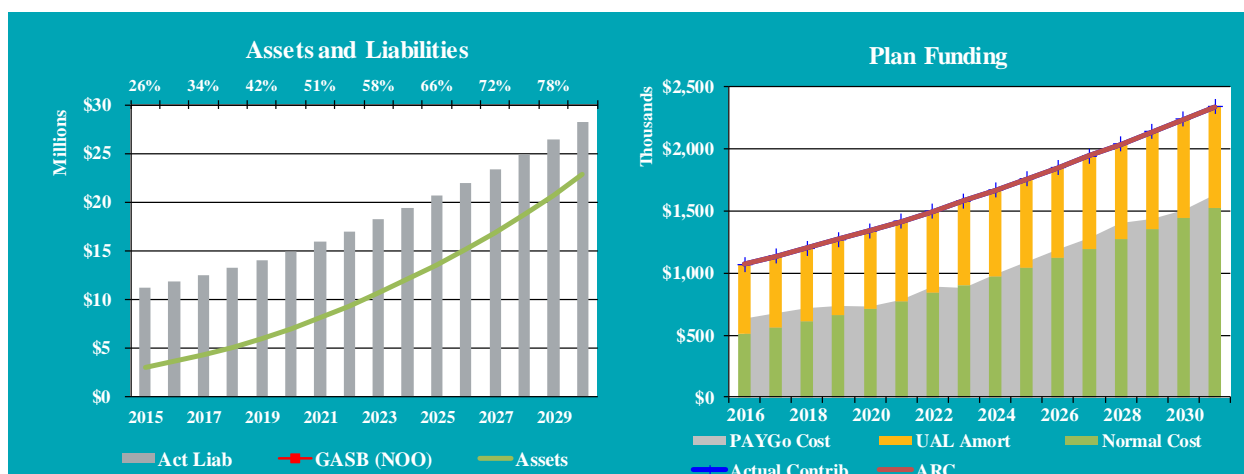
*Rounded to thousands*

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION IV**  
**SENSITIVITY**

***Projected Liabilities***

Looking beyond 2015, the expense and liability on the financial statements increase under the actuarial funding method. The charts below project the assets and liabilities and the funding costs for the next 15 years under the current GASB 43/45 requirements.



The left-hand chart shows the projected Actuarial Liability (gray bars) increasing from \$11.1 million to \$28.2 million over the next 15 years. The beginning of year NOO (i.e., the figure that appears on the City's financial statements) will remain negative, increasing from \$(343) thousand to approximately \$(264) thousand over the same time period under the current assumptions. The NOO is not shown in the chart since the value is always below zero. The green line projects the assets in the Plan, which are expected to increase from about \$3 million to just under \$22.8 million at July 1, 2030. The funded percentage is expected to grow from 26% to over 81% by the end of the projection period.

The right-hand chart shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and are projected to increase from approximately \$633 thousand to \$1.3 million for the fiscal year ending 2031. The blue line, which is hidden by the red line, represents the City's contributions. Based on the City's current funding policy, they match the ARC. The ARC, shown by the red line, is projected to increase from \$884 thousand in fiscal year ending June 30, 2016 to just over \$1.8 million in fiscal year ending June 30, 2031.

***Please note that GASB No. 74 and 75 statements would materially alter the disclosures for fiscal years beginning after June 30, 2017. The changes from the GASB No. 74 and 75 statements are not reflected in the report.***

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION V**  
**ACCOUNTING DISCLOSURES**

**Statements No. 43 and 45 of the Governmental Accounting Standards Board (GASB)** established standards for accounting and financial reporting of Other Postemployment Benefit (OPEB) information by governmental employers and plans. In accordance with those statements, we have prepared the following disclosures.

***Net OPEB Obligation***

The table below shows the development of the Net OPEB Obligation (NOO) for the fiscal year ending June 30, 2015 and projects the Net OPEB Obligation for the fiscal years ending June 30, 2016 and June 30, 2017.

<p style="text-align: center;"><b>Table V-1</b> <b>Development of Net OPEB Obligation</b></p>				
<b>Fiscal Year Ending</b>	<b>June 30, 2015</b>	<b>June 30, 2016</b>	<b><i>Projected</i></b> <b><i>June 30, 2017</i></b>	
1. Interest rate	7.00%	7.00%	7.00%	
2. Net OPEB Obligation (NOO) at beginning of fiscal year	\$ (340,000)	\$ (343,000)	\$ (345,000)	
3. Annual Required Contribution (ARC)	\$ 982,000	\$ 1,071,000	\$ 1,133,000	
4. Interest on NOO at discount rate to end of fiscal year	(24,000)	(24,000)	(24,000)	
5. Adjustment to the ARC	(21,000)	(22,000)	(23,000)	
6. Annual OPEB Cost (3) + (4) - (5)	\$ 979,000	\$ 1,069,000	\$ 1,132,000	
7. Net employer contribution	\$ 982,000	\$ 1,071,000	TBD	
8. Change in Net OPEB Obligation (6) - (7)	\$ (3,000)	\$ (2,000)	TBD	
<b>9. Net OPEB Obligation at end of fiscal year (2) + (8)</b>	<b>\$ (343,000)</b>	<b>\$ (345,000)</b>	<b>TBD</b>	

*Rounded to thousands*

The Net OPEB Obligation at June 30, 2015 was provided in the July 1, 2014 actuarial valuation for the fiscal year ending June 30, 2015. The Annual Required Contribution for the fiscal year ending June 30, 2016 is based on the July 1, 2015 valuation. The projected Annual Required Contribution for the fiscal year ending June 30, 2017 is based on the July 1, 2015 actuarial valuation with liabilities and assets projected to July 1, 2016 (these amounts will update based on the July 1, 2016 actuarial valuation). The interest on Net OPEB Obligation is calculated using the 7.0% assumed discount rate. The adjustment to the ARC is a closed 30-year level percent of payroll amortization from July 1, 2008 of the NOO. The remaining amortization period at July 1, 2015 is 23 years. The employer contributions were provided by the City for the fiscal year ending June 30, 2015 and assumed equal to the ARC in fiscal year ending June 30, 2016. The contribution is yet to be determined for the fiscal year ending June 30, 2017.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION V**  
**ACCOUNTING DISCLOSURES**

***Schedule of Funding Progress***

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

Table V-2 Schedule of Funding Progress *						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (b)	Unfunded Actuarial Liability (UAL) (b-a)	Funded Ratio (a/b)	Annual Covered Payroll (c)	UAL as Percentage of Covered Payroll ((b-a)/c)
7/1/2015	\$ 2,912,000	\$ 11,119,000	\$ 8,207,000	26%	\$ 69,346,000	11.8%
7/1/2014	2,607,000	10,667,000	8,060,000	24%	70,052,000	11.5%
7/1/2013	2,099,000	10,399,000	8,300,000	20%	66,641,000	12.5%
7/1/2012	1,877,000	9,728,000	7,851,000	19%	68,086,000	11.5%
7/1/2011	1,639,000	13,190,000	11,551,000	12%	N/A	N/A
7/1/2010	1,141,000	12,816,000	11,675,000	9%	69,600,000	16.8%
7/1/2009	793,000	16,958,000	16,165,000	5%	N/A	N/A
7/1/2008	362,000	19,283,000	18,921,000	2%	75,000,000	25.2%

\* Figures prior to July 1, 2013 calculated by prior actuary

***Schedule of Employer Contributions***

The schedule of employer contributions shows whether the employer has made contributions that are consistent with the parameters established by GASB for calculating the ARC and the annual OPEB expense.

Table V-3 Schedule of Employer Contributions *				
Fiscal Year Ending	Annual OPEB Cost (AOC)	City Contributions	Percentage of AOC Contributed	Net OPEB Obligation
2017	\$ 1,132,000	TBD	TBD	TBD
2016	1,069,000	1,071,000	100%	\$ (345,000)
2015	979,000	982,000	100%	(343,000)
2014	953,000	957,000	100%	(340,000)
2013	874,000	877,000	100%	(336,000)
2012	1,274,000	1,337,000	105%	(333,000)
2011	1,232,000	1,306,000	106%	(270,000)
2010	1,528,000	1,724,000	113%	(196,000)
2009	1,747,000	1,747,000	100%	0

\* Figures prior to FYE 6/30/2014 calculated by the prior actuary.

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table V-4.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**SECTION V**  
**ACCOUNTING DISCLOSURES**

**Table V-4**  
**NOTE TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation Date	July 1, 2015
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level Percentage of Pay, Closed Period
Remaining Amortization Period	23 years as of July 1, 2015
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Investment Rate of Return	7.00%
Rate of Salary Increases used for amortization of the UAL	3.00%
Ultimate Rate of Medical Inflation	5.50%
Inflation	2.50%

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**Member Data**

Valuation Date	July 1, 2014	July 1, 2015	% Change
<b>Active Employees</b>			
Count	1,587	1,595	0.50%
Average Age	43.18	43.10	-0.19%
Average Service	11.39	11.66	2.37%
Covered Payroll	\$ 70,052,000	\$ 69,346,000	-1.01%
<b>Inactives with Medical Coverage</b>			
Retirees	131	122	-6.87%
Non-Duty Disabilities	4	5	25.00%
Spouses	34	26	-23.53%
<b>Total</b>	<b>169</b>	<b>153</b>	<b>-9.47%</b>

Eligible Active Employees as of July 1, 2015									
Age Group	Years of Service								Total
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 +	
Under 25	85	0	0	0	0	0	0	0	85
25 to 30	163	43	0	0	0	0	0	0	206
30 to 35	86	78	31	0	0	0	0	0	195
35 to 40	44	46	64	22	0	0	0	0	176
40 to 45	40	39	48	66	18	0	0	0	211
45 to 50	31	30	32	49	47	21	0	0	210
50 to 55	29	18	38	28	27	45	12	0	197
55 to 60	33	21	29	30	12	17	21	14	177
60 to 65	11	14	15	13	17	16	6	14	106
Over 65	2	5	3	5	4	4	3	6	32
<b>Total</b>	<b>524</b>	<b>294</b>	<b>260</b>	<b>213</b>	<b>125</b>	<b>103</b>	<b>42</b>	<b>34</b>	<b>1,595</b>

Status Reconciliation						
	Active	Beneficiary	Disabled	Retired	Spouses	Total
<b>Members on July 1, 2014</b>	<b>1,587</b>	<b>1</b>	<b>4</b>	<b>131</b>	<b>33</b>	<b>1,756</b>
New Hires	155	0	0	0	0	155
Retired	(14)	0	0	14	0	0
Became Disabled	0	0	0	0	0	0
Added to Coverage *	0	0	1	2	1	4
Withdrew from Active Status	(133)	0	0	0	0	(133)
Newly Medicare-eligible	0	0	0	(20)	(3)	(23)
Elected Out of Coverage	0	(1)	0	(5)	(5)	(11)
<b>Members on July 1, 2015</b>	<b>1,595</b>	<b>0</b>	<b>5</b>	<b>122</b>	<b>26</b>	<b>1,748</b>

\* showed up in 2015



**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**Economic Assumptions**

- 1. Measurement Date:** July 1, 2015
- 2. Discount Rate:** 7.00% per year, net of investment expenses and administrative expenses
- 3. Inflation:** 2.50%
- 4. Annual Rate of Payroll Growth:** For purposes of amortizing the Unfunded Actuarial Liability as a level percent of payroll, a 3.00% annual rate of pay growth is assumed.
- 5. Salary Increase:** Representative values of the assumed annual salary increases are shown below. The rates include the following components: 2.75% for inflation, 0.5% for national productivity and 0.25% for merit or seniority increases (adopted June 30, 2011).

Age	Annual Rate of Salary Increase
20	5.00 %
25	4.50
30	4.00
35	3.50
40	3.50
45	3.25
50	3.00
55	2.75
60	2.50
64	2.50

- 6. Changes Since Prior Valuation:** None applied for the above economic assumptions.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**Demographic Assumptions**

- 1. Rates of Retirement:** Percent of eligible active members retiring within the next year, based on assumptions adopted June 30, 2011 for ESRS and June 30, 2006 for ERS and provided by the prior actuary for the postretirement valuation.

*General:*

Age	Early Retirement		Normal Retirement	
	ESRS	ERS	ESRS	ERS
40	n/a	0.00 %	n/a	n/a
45	n/a	2.00	n/a	7.00 %
50	n/a	2.00	50.00 %	10.00
51	n/a	2.00	16.00	11.00
52	n/a	2.00	16.00	11.00
53	n/a	2.00	16.00	12.00
54	n/a	2.00	16.00	13.00
55	5.00	2.00	20.00	15.00
56	5.00	3.00	20.00	15.00
57	5.00	4.00	20.00	15.00
58	5.00	5.00	16.00	15.00
59	10.00	6.00	16.00	15.00
60	10.00	n/a	16.00	20.00
61	10.00	n/a	16.00	20.00
62	10.00	n/a	28.00	35.00
63	10.00	n/a	28.00	35.00
64	10.00	n/a	28.00	35.00
65	n/a	n/a	28.00	35.00
66	n/a	n/a	20.00	25.00
67	n/a	n/a	20.00	25.00
68	n/a	n/a	20.00	25.00
69	n/a	n/a	20.00	25.00
70	n/a	n/a	100.00	100.00

NOTE: Rates apply to each member based on eligibility requirements as defined in the Summary of Benefit and Contribution Provisions.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

*Public Safety:*

Age	ESRS Early and Normal Retirement	ERS Early Retirement	ERS Normal Retirement
40	n/a	0.99 %	n/a
45	20.00 %	0.48	10.00 %
50	20.00	0.12	10.00
51	20.00	0.10	20.00
52	20.00	0.09	20.00
53	20.00	0.07	20.00
54	20.00	0.04	20.00
55	20.00	0.03	20.00
56	20.00	0.02	30.00
57	20.00	0.01	30.00
58	20.00	0.01	30.00
59	20.00	0.01	30.00
60	20.00	n/a	35.00
61	20.00	n/a	40.00
62	20.00	n/a	40.00
63	20.00	n/a	40.00
64	20.00	n/a	40.00
65	100.00	n/a	100.00

NOTE: Rates apply to each member based on eligibility requirements as defined in the Summary of Benefit and Contribution Provisions.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

- 2. Rates of Withdrawal:** Percent of eligible active members terminating employment (not due to retirement, death, or disability) within the next year.

The following assumptions were adopted June 30, 2011 for ESRS.

Service	General	Public Safety
0	20.00 %	11.00 %
1	18.00	10.00
2	16.00	9.00
3	14.00	8.00
4	12.00	7.50
5	11.00	7.00
10	6.00	4.50
15	3.50	2.50
20	1.50	1.25
24	0.50	0.25
25	0.25	0.00
26+	0.00	0.00

- 3. Rates of Disability Retirement:** Sample rates are as follows:

The following assumptions were adopted June 30, 2011 for ESRS.

Age	General		Public Safety	
	Non-Occupational	Occupational	Non-Occupational	Occupational
20	0.04 %	0.00 %	0.02 %	0.02 %
25	0.04	0.00	0.02	0.03
30	0.05	0.00	0.03	0.03
35	0.08	0.00	0.04	0.05
40	0.12	0.01	0.07	0.07
45	0.18	0.01	0.12	0.13
50	0.27	0.01	0.21	0.22
55	0.37	0.02	0.30	0.32
60	0.60	0.03	0.00	0.45
61	0.67	0.03	0.00	0.52
62	0.75	0.04	0.00	0.56
63	0.82	0.04	0.00	0.60
64	0.90	0.04	0.00	0.63
65+	0.00	0.00	0.00	0.00

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**4. Rate of Mortality:**

Pre-Retirement: 125% of RP-2000 Combined Healthy Mortality for males and females with generational mortality projection using Scale AA\*

Healthy Annuitants: 125% of RP-2000 Combined Healthy Mortality for males and females with generational mortality projection using Scale AA

Disableds: 70% of PBGC Disabled Mortality Table 5A for males and 90% of PBGC Disabled Mortality Table 6A for females

*\* For General, no deaths are assumed to be occupational. For Public Safety, occupational deaths are assumed to increase from 28.7% / 22.3% (for females/males) of total deaths to a maximum of 54.2% / 35.2% (for females / males) of total deaths at age 32, and then decrease to 0.0% at age 65.*

**5. Percent of Retirees Electing Coverage:** 35% of eligible retirees are assumed to participate in retirement. 15% of those eligible retirees electing coverage are assumed to cover a spouse.

**6. Family Composition:** Assume 70% of members are married at retirement.

**7. Dependent Age:** For current active employees, males are assumed to be three-years older than their spouses. For current retirees, actual spouse date of birth was used, if known.

**8. Changes since Prior Valuation:** None applied for demographic assumptions.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**Claim and Expense Assumptions**

- 1. Average Annual Claims and Expense Assumptions:** The following claim and expense assumptions are applicable from July 1, 2015 to June 30, 2016 for Pre-Medicare Retirees and Spouses. Subsequent years' costs are based on the first year cost adjusted with trend.

<u>Age</u>	<u>Medical</u>		<u>Pharmacy</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
40	\$2,678	\$5,026	\$761	\$1,122
45	\$3,269	\$5,109	\$1,026	\$1,372
50	\$4,264	\$5,849	\$1,417	\$1,810
55	\$5,567	\$6,771	\$1,893	\$2,330
60	\$7,266	\$8,013	\$2,434	\$2,842
64	\$9,117	\$9,387	\$2,831	\$3,091

<u>Age</u>	<u>Reinsurance</u>	<u>Admin</u>	<u>ACA</u>	<u>Total</u>	
	<u>All</u>	<u>All</u>	<u>Tax</u>	<u>Male</u>	<u>Female</u>
40	\$156	\$248	\$16	\$3,859	\$6,568
45	\$156	\$248	\$16	\$4,715	\$6,901
50	\$156	\$248	\$16	\$6,101	\$8,079
55	\$156	\$248	\$16	\$7,880	\$9,521
60	\$156	\$248	\$16	\$10,120	\$11,275
64	\$156	\$248	\$16	\$12,368	\$12,898

- 2. Annual Trend:** The following annual trend rates were applied to the Average Annual Claims and Expense Assumptions to project these costs into the future.

***Medical, Pharmacy, and Reinsurance:***

<u>Beginning</u>		<u>Beginning</u>	
<u>July 1,</u>	<u>Trend</u>	<u>July 1,</u>	<u>Trend</u>
2015	9.250%	2023	7.375%
2016	9.016	2024	7.141
2017	8.781	2025	6.906
2018	8.547	2026	6.672
2019	8.313	2027	6.438
2020	8.078	2028	6.203
2021	7.844	2029	5.969
2022	7.609	2030	5.734
		2031+	5.500

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

***Administrative Expense:*** 3.0% annual increases for all years.

***ACA Tax:*** \$16 per person with no future increases projected during applicable temporary period.

***Anthem Key Care PPO 20 Active Medical Premium:*** Retirees pay the same as the active premium rates applicable. Actual calendar year 2015 premiums, increased by 2.7% are used to trend to the period of 7/1/2015 – 6/30/2016. Future increases in the active medical premiums are assumed to increase by 5.5%, the long term medical trends. The additional \$100 added for post 12/1/2009 retirees continues in projections unchanged.

- 3. Dependent Children:** Claims below age 65 have been loaded for the cost of children enrolled as dependents of eligible retirees. The medical claims were loaded 23.5% and the pharmacy claims 10.5%. This figure is based on the expected cost for children of the current population enrolled. This assumption implicitly assumes that future retirees will have the same child distribution as the current population.
- 4. Annual Limits:** Assumed to increase at the same rate as medical trend.
- 5. Lifetime Maximums:** Unlimited
- 6. Geography:** Implicitly assumed to remain the same as current retirees.
- 7. Changes since Last Valuation:** The annual claim curves were updated to reflect the most recent claim experience. The health care trends were updated to reflect the current market place.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX A**  
**PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

**Methodology**

**Actuarial Cost Method:** The Projected Unit Credit Actuarial Cost Method was used to value the Plan's actuarial liabilities and to set the normal cost. Under this method, benefits are projected for life, and their present value is determined. The present value is divided into equal parts, which are earned from date of hire to each decrement age.

A closed 30-year amortization period from July 1, 2008 was used. The remaining amortization period at July 1, 2015 is 23 years. The amortization method is a level percentage of payroll amortization method.

**Asset Valuation Method:** Assets are valued at market value.

**Claims Method:** For medical and pharmacy, we used historical claims and census records assembled and provided by Anthem through June 30, 2015. We analyzed medical and prescription experience for non-Medicare eligible (NME) (actives and retired covered persons). We distributed the cost based on the current covered population and Cheiron's standard age curves which vary by age and gender. Children costs are converted to a load on the non-Medicare (NME) retirees which implicitly assumes that future retirees will have the same child distribution as the current population. Administrative and ACA Taxes were based on contractual rates and projected costs. From this data, we developed per person per month (PPPM) costs and then adjusted those using age curves. The rates were then trended forward to the period July 1, 2015 to June 30, 2016 using an annual trend assumption of 9% for medical and 8% for pharmacy.

This report reflects the additional fees that are payable for three years for Transitional Reinsurance of \$44 per covered life in 2015 and \$27 per covered life in 2016, and also reflects the Patient-Centered Research Institute (PCORI fees) of \$2.08 per member per year payable during an eight-year period, pursuant to the Affordable Care Act. However, this report does not reflect future changes in benefits, subsidies, penalties, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010, related legislation, or regulations. The Affordable Care Act Tax is assumed to end in 2016.

**Changes since Last Valuation:** There were no changes to actuarial methods since the prior valuation. However, claims were updated to reflect the most recent experience.



**APPENDIX B**  
**SUBSTANTIVE PLAN PROVISIONS**

A summary of the Post-Retirement Health Plan benefits and contribution provisions are as follows.

**Eligibility**

Full-time active employees are eligible to receive postretirement medical and dental benefits after retiring directly from the City with at least 15 years of continuous City service, provided they have participated in the City's employee medical plan for a minimum of one year prior to retirement.

The following summarizes eligibility for a pension benefit from the City of Roanoke:

- ESRs hired before 7/1/2014
  - *Early Retirement:* Age 55 with at least five years of service
  - *Normal Retirement:* Age 65 with at least five years of service, or age 50 (or age 45 for police and firemen) with at least 80 points (or 70 points for police and firemen)
  - *Disability:* At least five years of service for non-duty disability, and no requirement for duty disability
  - *Death:* At least ten years of service for non-duty death, and no requirement for duty death
- ESRs hired on and after 7/1/2014
  - *Early Retirement:* Age 60 with at least five years of service
  - *Normal Retirement:* Age 65 with at least five years of service, or age 55 (or age 50 for police and firemen) with at least 85 points (or 75 points for police and firemen)
  - *Disability:* At least five years of service for non-duty disability, and no requirement for duty disability
  - *Death:* At least ten years of service for non-duty death, and no requirement for duty death
- ERS
  - *Early Retirement:* 20 years of service
  - *Normal Retirement:* Age 60 or 30 years of service
  - *Disability:* At least five years of service for non-duty disability, and no requirement for duty disability
  - *Death:* No requirement for either non-duty or duty death eligibility

Active members are vested after five years (ten years under ERS) of service, however must retire directly from the City to be eligible for a post-retirement health benefit.

Sheriffs, who participate in the Virginia Retirement System, are also eligible for Post-Retirement Health Plan benefits with at least 15 years of continuous City service, provided they have participated in the City's employee medical plan for a minimum of one year prior to retirement.

**CITY OF ROANOKE  
JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX B  
SUBSTANTIVE PLAN PROVISIONS**

**Benefits**

Non-Medicare eligible retirees and non-Medicare eligible spouses and dependent children may participate in the same medical and pharmacy plans available to active employees. These plans include both in- and out-of-network benefits. Dental benefits are fully paid for by the retiree and are not included in the post-retirement plan.

Coverage terminates for the retiree health upon normal Medicare eligibility age (65). If a covered eligible spouse is younger than the retiree, he or she may remain on the Plan until the attainment of normal Medicare eligibility age. Once the retiree and spouse are no longer covered by the City's Plan, dependent child(ren) are no longer eligible for coverage. Once a participant has waived coverage, they are not eligible to re-elect into coverage.

Duty related disability and death benefits are covered under the Line of Duty Act and not included as part of the City's OPEB liability.

**City of Roanoke Health Plan Covered Group**

Active, COBRA, and retired members from the City of Roanoke and the Roanoke Valley Detention Commission participate in the City health plan (currently the Anthem Key Care PPO 20 Plan). In addition, Sheriff employees and retirees and those retired under the Line of Duty Act are eligible to participate in the City health plan.

The City of Roanoke School Board, the Roanoke Valley Resource Authority, the Roanoke Regional Airport Commission, and the Western Virginia Water Authority have each developed their own health plans and do not participate in the City health plan, as either active or inactive members.

Only participants who have retired or will be retiring from the City of Roanoke are included in the liabilities contained in this report. However, the claim cost development recognizes all participants of the City health plan.

**CITY OF ROANOKE  
JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX B  
SUBSTANTIVE PLAN PROVISIONS**

**Participant Cost Sharing Contributions**

Retirees contribute the active medical premium rate. The 2015 Anthem Key Care PPO 20 monthly rates effective January 1 are as follows:

<b>Medical Coverage Tier</b>	<b>2015 Active Medical Premium</b>
Retiree	\$ 522.56
Retiree + Child	669.12
Retiree + Spouse	952.72
Family	959.30

Participants retired after December 31, 2009 will pay an additional amount. Monthly contribution amount for retirees with medical coverage are as follows:

<b>Medical Coverage Tier</b>	<b>Post-2009 Retiree Additional Contribution</b>
Retiree	\$ 100.00
Retiree + Child	150.00
Retiree + Spouse	150.00
Family	200.00

Retirees also pay the full retiree cost for dental coverage.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX B**  
**SUBSTANTIVE PLAN PROVISIONS**

<b>Plan Last Modified:</b>	<b>7/1/2011</b>
<b>Group Covered:</b>	<b>City</b>
<b>Provider Network:</b>	<b>KeyCare PPO</b>
<b>Affordable Care Act Status:</b>	<b>Grandfathered</b>
<b><u>In-Network (INN) Benefits</u></b>	
Deductible (Individual / Family)	\$0 / \$0
Coinsurance	20%
Copays:	
Office Visit (OV)-Primary Care (PCP)	\$20
OV - Specialist Care Provider (SCP)	\$40
Preventive Care	Fully Insured
Urgent Care (UC)	\$40
Hospital Emergency Room (ER)	\$100
Outpatient Surgery	20% w/ 100 Copay
Hospital Inpatient	20% w/ 400 Copay
Out-of-Pocket Max (Individual / Family)	\$3,000 / \$6,000
<b><u>Out-of-Network (OON) Benefits</u></b>	
Deductible (Individual / Family)	\$500 / \$1,000
Coinsurance	30%
Out-of-Pocket (OOP) Max (Individ / Family)	\$4,500 / \$9,000
<b><u>Maximum (INN/OON)</u></b>	N/A
<b><u>Prescription Drugs</u></b>	
Retail (31 Days) - Generic / Formulary / Non-Form. Copay	\$10 / \$30 / \$50
Mail Order (90 Days) - Generic / Form. / Non-Form. Copay	\$20 / \$60 / \$100
<b><u>Detail Benefits</u></b>	
Mental Health (MH) / Substance Abuse (SA):	INN - 20% & \$40 Copay / OON - 30%
- MH Annual / Lifetime Visit Maximum (Inpatient / Outpatient)	Unlimited
- SA Annual / Lifetime Visit Maximum (Inpatient / Outpatient)	Unlimited
- Annual / Lifetime Dollar Maximum (MH / SA)	Unlimited / Unlimited
Rehabilitation (i.e., speech, occup. physical):	OV Copay
- Speech Therapy Annual Maximum	\$500
- Physical & Occupational Therapy Annual Maximum	\$2,000
Chiropractors	OV Copay
Home Health	INN - 0% / OON - 30% (90 visits per year)
Durable Medical Equipment (DME)	DC (\$5,000 limit per year)
Chemotherapy	DC
Hearing Aids	Not Covered
<b><u>Medical Management</u></b>	
PCP referral to specialists required	No
Inpatient	No
Outpatient	No
Case Management	Yes
Disease Management	Yes
Wellness	Yes
Nurse-Line / Informed Decision Support	Yes
<b><u>Medicare Integration:</u></b>	Coordination of Benefits
<b><u>Vision Care Services</u></b>	
Exam	One per covered person per calendar year
- Copay (INN / OON)	\$15 / \$30
Lens	Not Covered
Frames	Not Covered
Contacts	Not Covered
<b><u>Dental</u></b>	
Annual Deductible	Not Covered
Coinsurance (Prevent / Prosthetic / Restoration)	Not Covered
Annual Maximum Covered	Not Covered
Orthodontics	Not Covered
<b><u>Life Insurance</u></b>	Not Covered
<b><u>Post-65 Supplement</u></b>	Not Covered
<b><u>Medicare Part D</u></b>	Not Covered

<sup>1</sup> DC = Deductible and coinsurance applies.

**CITY OF ROANOKE  
JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX B  
SUBSTANTIVE PLAN PROVISIONS**

**Vendors**

Eligibility Administrator:	Anthem Blue Cross and Blue Shield
Medical Claims Administrator:	Anthem Blue Cross and Blue Shield
Medical Network:	Anthem Blue Cross and Blue Shield
Mental Health Network:	Anthem Blue Cross and Blue Shield
Medical Manager:	Anthem Blue Cross and Blue Shield
Pharmacy Benefit Manager:	Anthem Blue Cross and Blue Shield
Dental Network & Claim Administrator:	Delta Dental (Delta Premier)
Vision Network & Claim Administrator:	Anthem Blue Cross and Blue Shield
Life Insurer:	Minnesota Life
Consultant:	Wells Fargo Insurance Services USA, Inc.
Actuary:	Cheiron, Inc.
Auditor:	KPMG LLP

**Changes since Last Valuation**

New eligibility requirements were established for hires on and after 7/1/2014.

CITY OF ROANOKE  
JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION

APPENDIX C  
GLOSSARY OF TERMS

**1. Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

**2. Actuarial Cost Method**

A procedure for determining the Actuarial Present Value of Plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

**3. Actuarial Gain (Loss) (Called Actuarial Experience Gain and Loss)**

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

**4. Actuarial Liability, i.e., Actuarial Accrued Liability**

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of projected benefits which will not be paid by future Normal Costs.

**5. Actuarial Present Value (Present Value)**

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.),
- b. multiplied by the probability of the occurrence of the event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability		$\frac{1}{(1+\text{Discount Rate})}$	
\$100	x	(1 - .01)	x	$1/(1+.1)$	= \$90

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX C**  
**GLOSSARY OF TERMS**

**6. Actuarial Valuation**

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for the Plan.

**7. Actuarial Value of Assets**

The value of cash, investments and other property belonging to a Plan, as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way, long-term costs are not distorted by short-term fluctuations in the market.

**8. Amortization**

The portion of the Plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Liability.

**9. Discount Rate**

The estimated long-term interest yield on the investments that are expected to be used to finance the payment of benefits, with consideration given to the nature and mix of current and expected investments and the basis used to determine the Actuarial Value of Assets.

**10. Funded Ratio**

The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

**11. Normal Cost**

That portion of the Actuarial Present Value of the Plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

**12. Projected Unit Credit Actuarial Cost Method**

A method under which the benefits (projected or un-projected) of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years.

**13. Unfunded Actuarial Liability**

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

**14. Per Person Cost Trend, i.e., Healthcare Cost Trend Rate**

The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

**CITY OF ROANOKE**  
**JULY 1, 2015 EMPLOYEES' POST-RETIREMENT HEALTH PLAN VALUATION**

**APPENDIX D**  
**ABBREVIATION LIST**

Actuarial Liability (AL)  
Actuarial Valuation Report (AVR)  
Annual Required Contribution (ARC)  
Coordination of Benefits (COB)  
Deductible and Coinsurance (DC)  
Durable Medical Equipment (DME)  
Employee Assistance Program (EAP)  
Employee Benefits Division (EBD)  
Fiscal Year Ending (FYE)  
Governmental Accounting Standards Board (GASB)  
Hospital Emergency Room (ER)  
In-Network (INN)  
Inpatient (IP)  
Line of Duty Act (LODA)  
Medicare Eligible (ME)  
Net Other Postemployment Benefit (NOO)  
Non-Medicare Eligible (NME)  
Not Applicable (NA)  
Office Visit (OV)  
Other Postemployment Benefit (OPEB)  
Out-of-Network (OON)  
Out-of-Pocket (OOP)  
Outpatient (OP)  
Pay-as-you-go (PAYGo)  
Per Person Per Month (PPPM)  
Pharmacy (Rx)  
Preferred Provider Organization (PPO)  
Primary Care Physician (PCP)  
Specialist Care Provider (SCP)  
Summary Plan Description (SPD)  
Unfunded Actuarial Liability (UAL)  
Urgent Care (UC)